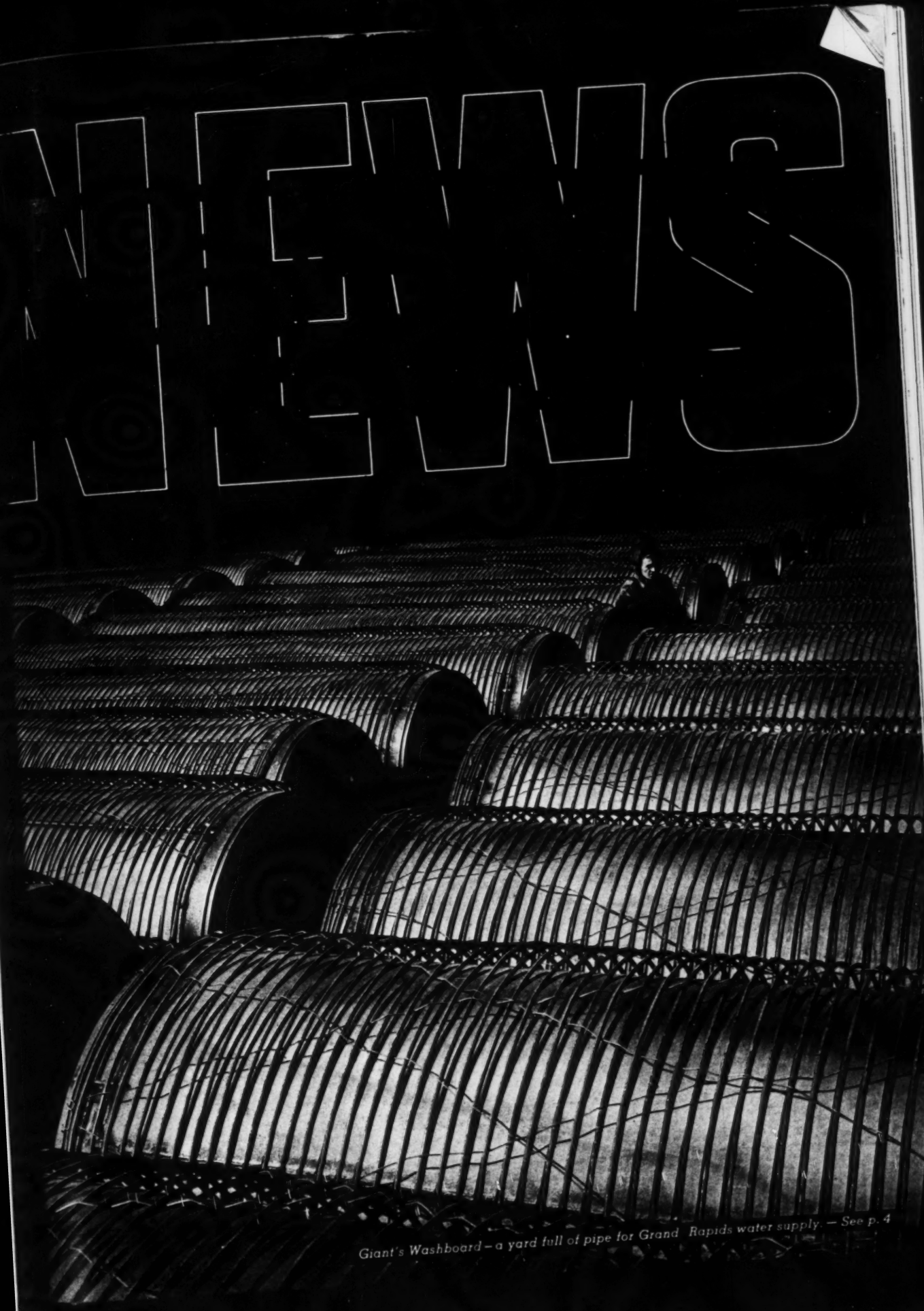
NEWS



Giant's Washboard – a yard full of pipe for Grand Rapids water supply. – *See p. 4*

. . . HOW THESE LOCK JOINT PIPES LAST SO LONG"

Father Time may be puzzled but he does not question the Permanance of Lock Joint Concrete Pressure Pipe.

There is no mystery behind such Durability. Carefully designed steel reinforcing encased in indestructible concrete assures this pipe a lifetime of trouble-free service.

Hundreds of miles of Lock Joint Concrete Pipe in constant, uninterrupted use attests its complete acceptance as an outstanding material for water supply lines.

Father Time will find these Lock Joint Pipe Lines in perfect condition year after year and still rendering satisfactory service in the era of our great-great-grandchildren.

PRESSURE • SEWER • CULVERT • SUBAQUEOUS

LOCK JOINT *Reinforced Concrete* **PRESSURE PIPE**

LOCK JOINT PIPE CO. Established 1905 AMPERE, N. J.

ENGINEERING NEWS-RECORD

NEWS

Volume 124 JANUARY 11, 1940 Number 2

NOTES ON THE NEWS

Quick Surveys of Construction Events

▶ Superficially, the new national budget appears to indicate a cut in federal public works, but a study of its details indicates that with the carry-over of unexpended funds from the current year and the emergency work growing out of the war in Europe the public works expenditure will be little changed from the current year.

▶ Canada and the United States have begun informal discussion looking to the development of their international waters for power and navigation. The proposed treaty apparently has a long rough road ahead as it will include such diverse subjects as the projected ship canal in the St. Lawrence River and the diversion of water from Lake Michigan at Chicago.

▶ Rumors that Robert Moses, New York Park Commissioner, has given up the fight, at least temporarily, for a Battery Bridge in favor of a Battery tunnel, were turned to fact last week with a statement by Moses that he prefers a tunnel to no crossing at all.

▶ The indictments by the Department of Justice as part of its investigation of the building industry seems but a maze of legal actions; on page 6 *ENR* has attempted to give an up-to-date summary of the progress over the nation.

▶ National Defense roads note: Secretary of War Woodring has announced that the Army massed almost all of its tanks at Fort Banning, Ga., on Jan. 10 for use in a four-month period of maneuvers, involving the largest amount of the mechanized equipment over assembled in this country and with some 250 tanks to be used. For the most complete and authoritative presentation of the nation's defense road problem and plans see the Annual Highway Number of *Engineering News-Record*, to be published next week.

Michigan Reservoir Roof Collapses; Two Killed

Two workmen were killed and seven injured when a 32 x 90-ft. freshly poured section of the concrete roof of the city reservoir at Grand Rapids, Mich., collapsed Jan. 8. The roof section was estimated to weigh 80 tons.

The work was being done as part of an improvement to the Grand Rapids' Lake Michigan water supply project. Pearson Construction Co., Benton Harbor, Mich., is the general contractor, and Lundene & Rivard, Detroit, is the sub-contractor for concrete work.

. . .

Pollution Damages Asked At Sioux Falls, S. D.

The City of Sioux Falls, S. D., and three manufacturing concerns have been named defendants in a suit for $15,000 damages brought in the circuit court there. The plaintiff, a land owner along the Sioux River, is also seeking a perpetual injunction to prohibit the city and the firms from turning sewage into the stream.

The defendants named along with the city are John Morrell & Co., the Sioux Falls Rendering Co., and the Sioux Falls Serum Co.

. . .

Grand River Authority Gets Additional Time

The Public Works Administration has granted the Grand River Dam Authority until March 30, 1940, to complete its land acquisition work. This is half the time extension requested by the authority, and the work is so far behind that it is very doubtful if the land department can complete its work by that date.

Construction work being carried out by the authority will not be completed until some time in the summer, and the position of the general manager of the project still remains open, although temporarily filled by R. L. Davidson, chief counsel for the authority.

Much Construction In Federal Budget

Expenditures for emergency work will offset proposed cuts in normal public works program

Appropriations for federal public works amounting to a half billion dollars are recommended in the budget which the President submitted to Congress last week. This is a reduction of more than a third from last year's regular public works appropriations, a reduction that is attained by approving almost no new projects, simply continuing projects already started. Emergency expenditures based on international conditions, on the other hand, add many millions to offset the proposed cuts.

Large carryover of funds

Even though Congress should stick to the budget, actual expenditures for public works during fiscal 1940–41 will not reflect the drop in appropriations because of the money that is left over from the large appropriations of last year. Thus the budget estimate expenditures at $641,000,000 as compared with $688,000,000 for the current fiscal year.

In addition to regular public works, construction enters the budget through a recomended appropriation of $1,125,000,000 for WPA; this figure, the President says, is very likely lower than will ultimately prove necessary. No new appropriations for the PWA are proposed, but the budget includes $117,500,000 of unexpended PWA funds.

$300,000,000 defense work

The $300,000,000 of emergency national defense appropriations, asked for to meet conditions arising from the war situation, includes $48,000,000 of military public works—principally protective works at Panama and a start on the new locks.

Of the recomended regular public-

(*Continued on p. 2*)

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Federal Budget

(Continued from p. 1)

works appropriations, about $162,000,000 is for roads, about $222,000,000 for irrigation, flood control and hydroelectric projects, about $59,000,000 for buildings, military and civil, and $50,000,000 for naval public works.

Some of the major public works items in the budget are given in the accompanying table. The first column of figures is the amount it is recomended be appropriated for expenditure during fiscal 1940–41, while the second column is amounts it is estimated will actually be spent during that year using all available funds.

PUBLIC WORKS BUDGET — July, 1940 TO JULY, 1941

Item		Recommended appropriation		Anticipated expenditure*
Federal aid highways		$100,000,000		$110,000,000
Secondary roads		15,000,000		20,000,000
Grade crossing elimination		30,000,000		40,000,000
Park, forest, public & Indian		17,000,000		19,500,000
TVA		40,000,000		40,000,000
This includes				
Kentucky (Gilbertsville) Dam			15,423,000	
Watts Bar Dam			14,488,000	
Bonneville power distribution		6,000,000		8,000,000
Bonneville power plant		800,000		1,500,000
Reclamation		44,097,000		55,621,000
This includes				
Colorado-Big Thompson	2,000,000		1,800,000	
Central Valley	16,000,000		18,000,000	
Grand Coulee	12,000,000		12,000,000	
Parker Dam power	3,500,000		3,300,000	
Boulder Canyon (inc. All-American canal)	5,000,000		10,200,000	
Flood control		70,000,000		85,000,000
Mississippi Control		30,000,000		35,000,000
Fort Peck Power		2,000,000		1,500,000
Rivers and harbors		25,000,000		50,000,000
Buildings outside D. of C.		15,000,000		45,000,000
Buildings in D. of C.		10,220,000		12,850,000
Buildings at military posts		28,902,000		49,500,000
Navy public works		50,000,000		50,000,000
Emergency national defense				
Navy public works		1,235,000		1,500,000
Buildings at Army posts		12,560,000		8,000,000
Panama Canal, new facilities		15,000,000		10,000,000
Panama Canal, protective works		19,000,000		15,000,000

* Where the anticipated expenditures exceeds the recommended appropriations the difference is due to an anticipated carry-over from the year 1940.

WASHINGTON HIGHLIGHTS

Special reports by Paul Wooton

THE ADMINISTRATION hasn't yet put its finger on one sure way to break up identical bidding on government contracts but a symposium by the Temporary National Economic Committee has elicited from federal agencies numerous comments and suggestions indicating that the constant irritation caused by this situation may react strongly against business interests. Investigation of "suspicious circumstances" by a central authority established for the purpose is a proposal that doesn't sound sweet to the ear of those directly concerned nor do other proposals for fixing maximum limits on purchase prices at "reasonable figures" and specifying available substitutes for materials subject to patents "or other monopolistic controls." It bodes no good for trade associations to have the opinion broadcast that they tend to foster practices which bring about tie bids. In one year (December 1937-November 1938) iden-

FOOD TERMINAL COSTING $4,000,000 DEDICATED AT KANSAS CITY

THE KANSAS CITY food terminal, costing more than $4,000,000 and covering 62 acres on the west bank of the Missouri River in Kansas City, Kan., was dedicated last month. The terminal consists of a farmers' wholesale market, a merchants' wholesale market, a cold storage warehouse and a merchants' building. Accommodations are provided for more than 300 freight cars and 25 acres are given over to parking space for automobiles and farm vehicles.

The market occupies a level space which two years ago was used as a dumping ground, but is now protected from floodwaters of the Missouri River by dikes and revetments built by the U. S. Engineers.

The market is owned by the city and the railroad tracks have been leased by the Union Pacific R. R., which purchased the revenue bonds that were issued to pay for the cost of construction.

The project was carried out under the direction of George M. Bull, regional PWA engineer of Fort Worth, Tex.; Walter F. Shulz of Memphis, Tenn., was engineer on the job for PWA, and W. L. Cassell represented Horner and Wyatt, consulting engineers of Kansas City, Mo. Alonzo H. Gentry and Joseph H. Radotinsky, both of Kansas City, were the architects. The Weeks Construction Co. built the five structures of the farmers division. The remaining work was done with individual contracts by J. A. Tobin Construction Co., S. Patti Construction Co., Inc., and J. E. Dunn Construction Co., all with head offices in Kansas City, Mo. William J. Nauman, Jr., who served as resident engineer, has been appointed coordinating engineer for the project.

tical bids were received on nearly 25 per cent of all government purchases in number of items, 10 per cent in dollar volume.

APPOINTMENT of Alvin J. Wirtz, general counsel of the Lower Colorado River Authority, as Undersecretary of the Interior recently, indicates a new approach to the problem of the disposition of power from Bonneville Dam and other projects under the department's jurisdiction. It was Wirtz who last year worked out the highly satisfactory contract between the Texas authority and Texas Power & Light Co. for the sale of surplus power from the $28,000,000 "little TVA" development in central Texas. This contract averted a threatened power fight in the area and received high praise at the hands of the utility industry. Whether this policy will be projected into the Bonneville situation was a subject of speculation in Washington as the Texan assumed his new post and as Secretary of Interior Harold Ickes announced that the Bonneville Administration would be assigned to the Undersecretary's office, for the first time. Heretofore, Bonneville affairs have been unassigned to any subordinate official of the department.

RECLAMATION fared better at the hands of the Budget Bureau than did most of the regular agencies. The proposed appropriation for Grand Coulee will permit the completion of the mass concrete work in 1940. It will allow the installation of the first three 105,000-kw. units and is enough to get the irrigation project started. The law requires that the area to be served must be organized into irrigation districts. Land owners must contract to repay the costs of construction. One-third of the area has been organized. Organization of the remainder will be completed by the end of the year. A thoroughgoing study of the area, which is as large as Delaware is being made under the direction of H. H. Barrows. Barrows will report on such matters as size of farms, kinds of crops, local industry, transportation, local utilities and the settlement of refugees from the dust bowl.

STILL GINGERLY fingering its White House assignment to do all the government's non-military buying, the Treasury Department's procurement division is purchasing no more today than it did seven months ago when a Roosevelt order directed the shift as an economy move. Blocking the shift have been budget difficulties but Harold Graves, one of Secretary Morgenthau's assistants, is angling for more money and personnel to make the Procurement Division a truly central purchasing agency.

R. A. Wurgel Photo

THREE-LEVEL SEPARATION SORTS TRAFFIC NEAR WHITESTONE SPAN

AUTOMOBILE TRAFFIC is taken to three levels at this point in Whitestone, N. Y., in order to maintain a smooth flow of travel between New York's Bronx-Whitestone Bridge and the arterial systems of Long Island. The intersection will be put into use soon. The upper level is the east service drive, a two-lane direct connection to the Bronx-Whitestone Bridge. The middle level carries two lanes of traffic to the Cross Island Parkway and the lower level carries four lanes, two away from the reader to the Cross Island Parkway and two toward the reader to Grand Central Parkway Extension and downtown New York.

Thirteen thousand cu. yd. excavation for the job. The bridges are designed for an H-20 live load. Madigan-Hyland, New York City are consulting engineers.

Federal Operation Sought for Boulder

Present set-up includes operation by the Reclamation Bureau, city of Los Angeles and a utility

An effort is being made to revise the Boulder Dam act so as to place operation of the dam in the hands of the government. At present operating activities are divided. The Bureau of Reclamation brings the water to the gates of the turbines. The City of Los Angeles operates the units which produce its power while the Southern California Edison Co. operates the units providing power for the private utilities.

The change is being urged on the ground that the Reclamation Bureau has taken over the obligation of supplying power from the plant now being installed at the Parker Dam and must coordinate output at Boulder with that at Parker and at the prospective Bulls Head development.

Principal objection to the change comes from Los Angeles. Actual operation of its units is essential, it is felt, to insure instant response to any need that may arise. Some of the members of Congress from other states being served or to be served are convinced that just as quick response will be forthcoming from Reclamation Bureau personnel.

With the completion of two new units this year, providing an additional 165,000 kw of installed capacity, all of the firm water supply will have been utilized. Units added in the future would provide for the utilization of secondary power.

• • •

Connecticut Road Inquiry Absolves All Towns

The special Connecticut commission appointed to determine whether there has been any misuse of funds under the dual-grant system of road construction financing in Connecticut in that state has absolved all of the 104 towns operating under the dual-grant system of any charges or criticism. The commission, in its report, stated that it is clear from the records that both the state and federal authorities realized an uncommitted balance of funds would exist against certain road projects. These facts were thoroughly realized and were affirmatively urged upon the towns in order to obtain the consent of the towns to the expenditure of state aid and town aid funds, it not being legally possible to extend such funds without approval and contributions from the towns in question.

Fabricating Specials

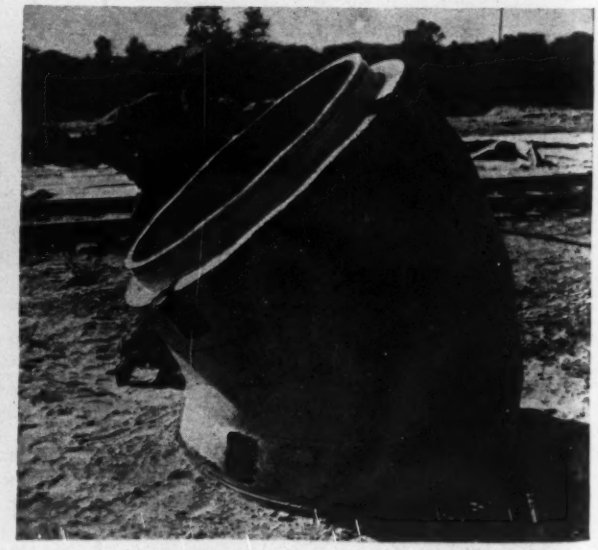
THRUST AT BENDS in the Grand Rapids water supply line is taken by an ingenious lug and bolt set-up, shown in this section of pipe ready for backfilling. The assembly is cast into the pipe wall and securely welded to the steel reinforcement.

THIRTY-ONE MILES of 46-in. steel and concrete pipe is a lot of pipe, and with it there is bound to be quite a number of tees, wyes, reducers and other specials. Such a job is the one recently undertaken by Grand Rapids, Mich., for the purpose of bringing water to the city from Lake Michigan. Although the big task in this project was to turn out 1,200 ft. of straight pipe daily, the manner in which specials were fabricated is of considerable interest to the construction man.

Several main line gate valves and cross-connections required the manufacture of many specials, which are all made of the same type of construction as the straight pipe, but in many cases are provided with flanged ends for connection to the valves or branch piping. Extra-heavy cylinders and reinforcement compensate for the opening in the pipe wall.

Short radius curves such as the one in the illustration (left) are formed by the use of special bends, also of the same principle of design as the straight pipe. The straight pipe, partly completed sections of which are shown on the cover of this issue, was manufactured in a plant set up at a railroad siding in Grand Rapids. Each section consists of a water-tight steel cylinder encased in reinforced concrete. In fabrication, the cylinder is welded, and a cage of reinforcing bars is built around it. The assembly is upended and forms are placed inside and out; Concrete is then poured around the steel.

BEND BEFORE CONCRETING. The anchor lugs have been filled with plaster which will be chipped out after the steelwork is encased in concrete.

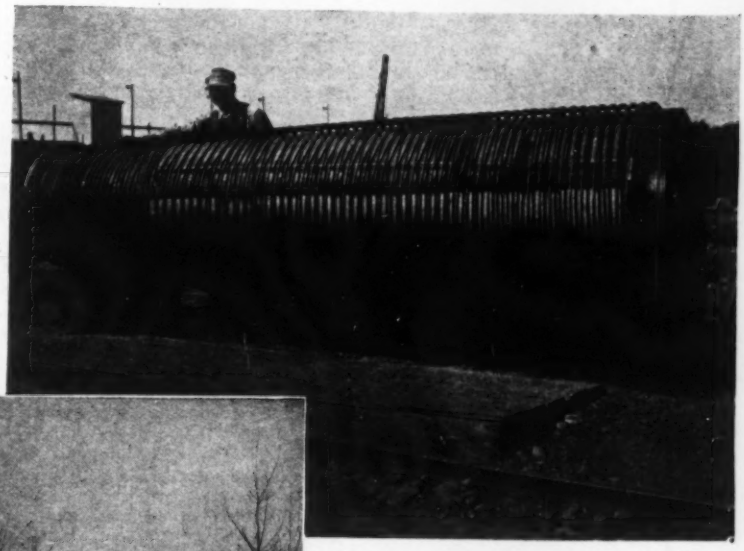


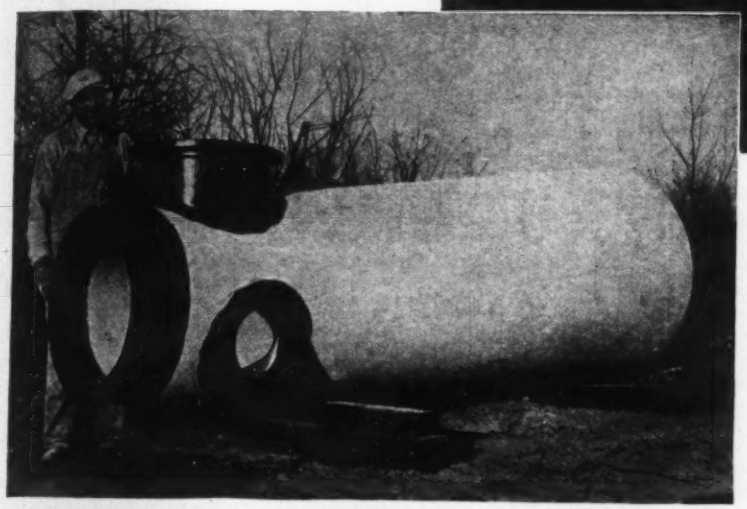
READY FOR INSTALLATION. The 45-deg. bend has been cast in segmental forms. Note that plaster has been cleaned from lug spaces.

for Grand Rapids Water Line

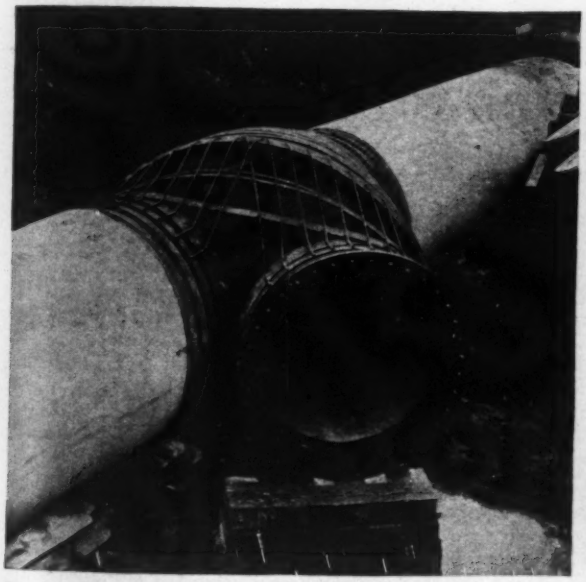
Rings welded to the cylinder form the bell and spigot joints. Each section is 16 ft. long and weighs 6 tons.

The project is under the direction of Peter J. Kammeraad, Grand Rapids, director of public service; Consoer, Townsend & Quinlan of Chicago are consulting engineers. Lock Joint Pipe Co., Ampere, N. J., has the pipe manufacturing contract, and installation is being done by Price Bros., Inc., Dayton, Ohio.





A REDUCER awaits its turn in the pouring yard (above). The finished job (left) stands in position beside the trench. Note the standard Lock Joint joint at the 46-in. end of the special and the flanged end and openings elsewhere for connection to smaller pipe and appurtenances. The large outlet on top is 20 in. in diam.



Photos courtesy Lock Joint Pipe Co.

THE ANCHOR BLOCK OF THIS 45-DEG.–46x42-IN. WYE was poured in the trench. Inside concreting and steel reinforcement structure of the wye had been fabricated at the manufacturing plant. A box form was built around the steel assembly, and the exterior concrete and anchor block were poured. Rubber expansion joints made it possible to lay the pipe in a wet trench.

Department of Justice Progress Listed In Building Industry Probe

In groups of 6 or 8, aids of Thurman Arnold, assistant attorney general of the United States, are operating in a dozen cities, looking into the activities and books of labor unions, materials dealers and manufacturers, contractors and other building agencies. To date, 12 indictments have been handed down in 8 cities against persons and firms charged with illegal monopolistic practices. The who, where and why of the indictments is summarized in the following:

New York—Nine firms and 10 individuals, charged with collusive bidding on WPA projects, resulting in an overcharge of $167,000 on electrical fixtures.

Also, one association, eight corporations, and 12 individuals charged with illegally maintaining uniform prices, resulting in a 35% price advance for sand and 20% for gravel in one month.

Detroit—Two unions, eight manufacturers, three contractors' associations, and 35 individuals, charged with unlawful combination to prevent shipment of tile to non-member contractors and to prevent the setting of any tile handled by manufacturers, jobbers, and contractors not party to the agreement.

Also three manufacturers, 10 wholesalers, and 19 individuals charged with illegally fixing prices on electrical supplies for approximately 75% of the Detroit market.

Cleveland—Three corporations, one association, and 10 individuals, including five members of a glaziers union, charged with intimidating competitors, using a system of bribes and payoffs, elevating prices artificially, and preventing competition.

Pittsburgh—Thirteen electrical manufacturing and supply firms and 45 individuals, including three top officials of the local electrical workers union, charged with conspiring to rig bids on federal building projects, defrauding the government, and using intimidation, bribes, strikes, fines, penalties, threats of personal injury to enforce identical bidding.

St. Louis—The carpenters union and four of its officials, including the international president, charged with conspiring to restrain trade, preventing members of the machinists union from working, and boycotting the product of a company involved in a jurisdictional dispute.

New Orleans—Four corporations and 13 individuals in a contractors' association, charged with conspiring to defraud the government and unlawfully diverting federal funds. Not a Sherman Act case.

Also, one corporation and a sheet metal association, charged with collusive bidding, and artificially maintaining prices.

One association, eight corporations, and 17 individuals handling some 80% of the local electrical business, charged with fixing prices illegally and conspiring to eliminate competition and to share profits under a "joint venture agreement."

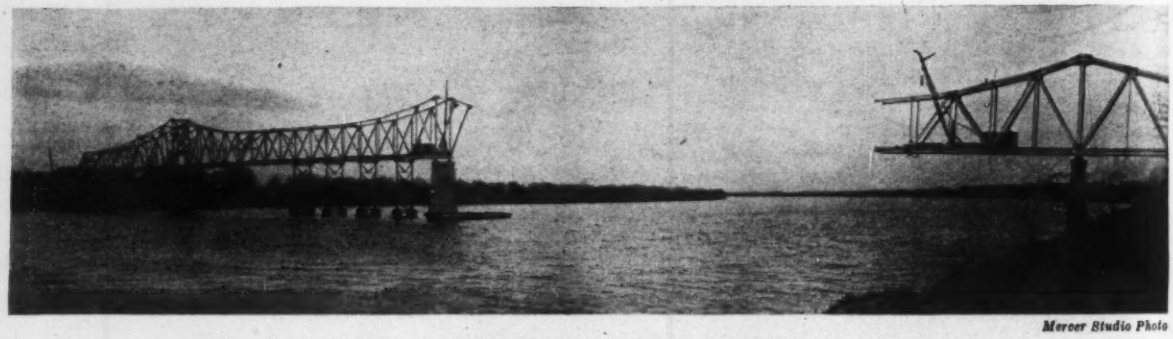
San Francisco—Ten corporations in the electrical business, the contractors' association, the bid depository, two locals of the electrical workers union, and 36 individuals, including union's international president, charged with unlawfully increasing and regulating bids submitted to general building contractors.

Washington, D. C.—The teamsters' union and five of its officials, charged with illegally restraining trade through strikes, and threats of strikes, to compel concrete companies to breach contracts with the union of operating engineers and employ teamsters' union men instead.

• • •

Baton Rouge Building Firm Sues Louisiana Road Body

Suit for $16,000 as damages has been filed by the A. C. Campbell Construction Co., Baton Rouge, La., against the Louisiana Highway Commission. The suit arises in connection with the construction of a section of U. S. Highway 51 in Caddo Parish, the construction firm contending that a work order which should have been issued within thirty days after the bids were opened was not issued for more than a year.



Mercer Studio Photo

WORK ADVANCES ON BRIDGE TO SPAN OHIO RIVER AT OWENSBORO

THE ENDEAVORS of a group of civic-minded citizens at Owensboro, Ky., to obtain a highway bridge across the Ohio River are now taking form with rapid advancement in the construction of a $2,300,000 toll structure at that point to provide a 22-ft. roadway, which will have a clearance of 47.2 ft. above the 1937 high water level.

Total length of the structure from the south end of the Kentucky approach to the Indiana abutment is 4,623 ft., the Kentucky approach consisting of 302 ft. of retained fill and 320 ft. made up of simple beam spans. The main river spans are 278 ft., 750 ft., 629 ft., and 343 ft. in length. Five deck truss spans each about 168 ft. in length are being built to join the main spans and the Indiana approach, which consists of five 72-ft. deck plate girder spans and 16 deck spans of 50 ft. Construction of an approach road three and one-half miles in length was also necessary at the Indiana end.

J. C. O'Connor & Sons, Fort Wayne, Ind., was the general contractor for the Indiana approach road. Under the supervision of M. P. O'Connor, vice-president, 3½-mi. of a 22-ft. concrete highway were built in five months, including construction of two 510-ft. reinforced concrete bridges and placement of 750,000 cu.yd. of fill.

The Dravo Corp., Pittsburgh, Pa., with F. J. Lloyd, Jr., superintendent, and Howard H. Sturdy and Wm. G. Huysman engineers, did the substructure work. The superstructure work is being done by the Hunter Steel Co., Pittsburgh, Pa., with J. E. Wheeler, superintendent, and W. H. Thomas, field engineer. P. A. Kirk & Son, Owensboro, Ky., contractor for part of the Kentucky approach, were represented on the job by P. A. Kirk. The contract for constructing administrative buildings and the collecting house is held by R. W. Key & Co., Mayfield, Ky. R. W. Key is personally supervising his company's work.

Wm. C. Gorman, assisted by John Giese and Theodore Zavorski, is resident engineer for Modjeski and Masters, Harrisburg, Pa., consulting engineers for the project. The Public Works Administration is represented by Robert E. Johnson, chief engineer-inspector, assisted by Fred G. Heil and Cecil T. Robertson.

N. S. P. E. Changes Its National Convention

The Board of Directors of the National Society of Professional Engineers has changed the time and place of the organization's fifth national convention from Jan. 25-27 at Cincinnati, Ohio, to Feb. 8-10 at the Deshler Wallick Hotel, at Columbus, Ohio.

The convention of the N.S.P.E. will be held jointly with the annual meeting of the Ohio Society of Professional Engineers.

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Ozone Water Treatment For Pennsylvania Town

The borough of Denver, Pa., has awarded a contract to Ozone Processes, Inc., Philadelphia, Pa., to ozonate the town's water supply of some 400,000 gal. per day.

William H. Dechant & Sons, Reading, Pa., consulting engineers for the borough, designed the installation for the treatment, which will remove from the filtered effluent the objectionable tastes and odors due to the present chemical treatment.

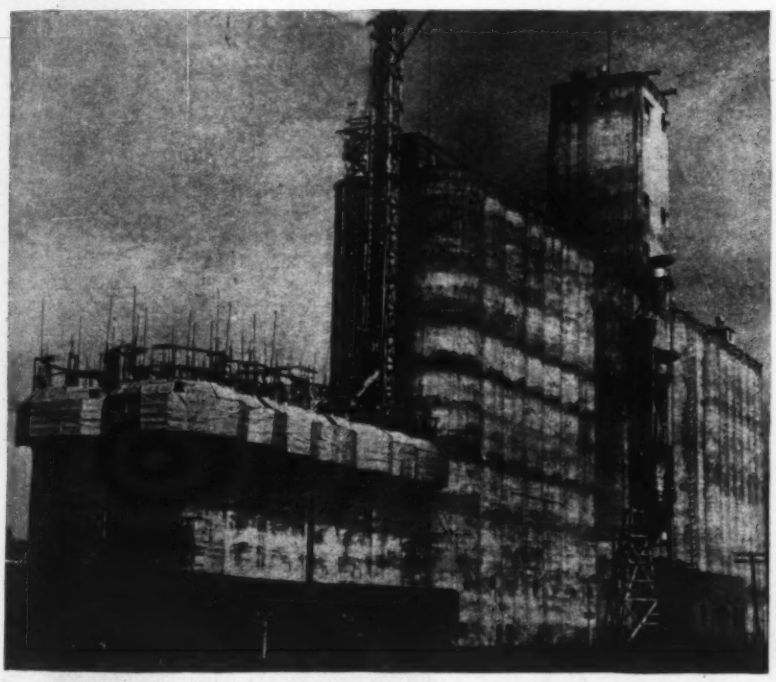
The development of new equipment for the generation of ozone and for its diffusion in the water will be described in an article appearing in the Feb. 1 issue of *ENR*.

• • •

Grand Coulee Contractors Win Gas Tax Case

The huge dump trucks used by the Mason-Walsh-Atkinson-Kier Co., contractors for the low dam at Grand Coulee, were not being driven on the highways and thus were exempt from the Washington five-cent gasoline tax, the Washington State Supreme Court ruled last month.

The decision reverses the lower court's ruling which was against the company in its suit to collect a $69,000 refund from the state.



COLD WEATHER FAILS TO HALT MINNESOTA JOB

Cold weather did not halt this project, construction of an addition to a storage bin for the Rahr Malting Co. at Shakopee, Minn. Instead, the contractor, the McKenzie-Hague Co., Inc., Minneapolis, inclosed the forms with a burlap-asphalt building paper and continued to pour concrete with operations going on both day and night.

The addition shown under construction measures 109 x 41 ft. 6 in., and will be 130 ft. high, to have a capacity of 400,000 bushels. Concrete was poured into the forms in continuous pours. Forms were lifted as a unit by means of screw jacks.

O. H. Johnson, superintendent of the McKenzie-Hague Company, was in charge of construction, the work being completed last month.

St. Lawrence Treaty Studied in Ottawa

Details of a new treaty affecting international waters discussed with Canada

Discussion of a new treaty relating to the use and development of the international waters was begun in Ottawa on Jan. 8. Representatives of the United States include A. A. Berle, Jr., Asst. Secretary of State, Leland Olds, chairman, Federal Power Commission. Engineering experts of the two countries will be called in to discuss technical details as soon as the preliminary plans for a treaty are agreed upon.

It is expected that any draft of a treaty to which representatives of the United States will be a party will include the whole Great Lakes-St. Lawrence watershed as the United States, in March, 1938, rejected a proposal from Canada that one element of the whole question be made the subject of a treaty. Canada then sought approval of the United States of a plan whereby the Ontario Hydro-Electric Power Commission would increase its available flow at Sault Ste. Marie and at Niagara by 1,200 cfs through the diversion of that amount of water from the Hudson Bay drainage basin into Lake Superior. Our State Department declined to be a party to a limited treaty revision and called for a treaty that would take into consideration the changed conditions since the Boundary Waters Treaty of 1909 was approved, notably the decrease in diversion at Chicago from 8,500 cfs to 1,500 cfs and the unequal division of waters at Niagara that was accepted by the United States in 1909 through a tacit understanding that it was to offset the Chicago diversion.

Ontario needs more power for war industries and could produce part of it quickly through approval of an increase in its diversion from the Niagara River. Subsequently, under a new treaty, that province would be able to cooperate with New York in the development of power in the international section of the St. Lawrence River.

• • •

Large Harbor Improvement Expected at Minneapolis

A definite step towards the ultimate realization of Minneapolis' dream of a $10,000,000 upper Mississippi River harbor improvement resulted recently when the city's board of estimate and taxation voted to authorize the sale of $100,000 in bonds for study of the improvements.

Edgar S. McCandliss is head of the construction contract section of the U. S. E. D. on Los Angeles and Orange County flood control work which runs far into the millions of dollars. It includes Hansen Dam, now nearing completion, which has broken several world's records. The intake structure for Prado Dam, another earthfill under his supervision, is here shown in the background. Height is indicated by relative size of workmen on top.

Living in isolated grandeur in the Arkansas hills, **T. V. Coyne,** superintendent of supply at the Little Rock waterworks reservoir, keeps in touch with the city office 45 miles away by short wave radio. He patrols a 43 sq.mi. watershed, (on which not a permanent dwelling exists) and operates the chlorinating and other chemical control equipment used to maintain a high quality raw water supply for Little Rock.

Los Angeles City Engineer Lloyd **Aldrich** is telling about structures proposed in the Metropolitan Transit Authority report just completed, which outlines a $250,000,000 improvement project. The first unit would be the $20,000,000 Hollywood parkway, six miles long, to be operated on ten cent tolls. This unit would extend from Flower St. near Third to Cahuenga and Highland and would include a bypass from the parkway to Eighth St.

MEN AT WORK

"It's a mighty deep cut," they're saying; A. F. Keyes, H. A. Taylor and E. E. Richards were near Hazel Green, Wis., inspecting a 90-ft. highway cut said to be Wisconsin's largest, when the picture (below) was taken. Keyes is general superintendent for A. B. Lynch, Milwaukee, contractor on the job; Taylor is a PRA highway engineer, and Richards is state senior assistant division engineer.

Caterpillar Photo

They're doing a high-speed building job in Washington (right). B. T. Foley is electrical sub-contractor and M. H. McCloskey, Jr., represents McCloskey & Co., general contractor on the capital city's new $2,500,000 Federal Office Building, believed to be the fastest job on record of erecting a concrete frame building. The first floor was poured Nov. 11, and the penthouse roof of the 6-story structure was poured January 2, 52 days later.

This speed for completion was essential because the first use for the building is the housing of the staff for the 1940 U. S. Census, which will be taken this spring.

The first 3 floors will be in use Feb. 1, and the entire building will be complete except for elevators March 1. Construction was carried on 24 hr. a day. Peak payroll was 1,500 men.

MEN AND JOBS

JOSEPH C. WOODMAN and JOHN E. MORRIS, engineers whose names have been synonymous with the Decarie Incinerator Co. of New York for 25 years, have severed their connections with the Nicholas Engineering & Research Corp., New York, which took over the Decarie Company in 1938. JOHN R. BUFFINGTON, chief draftsman with a similar record, has also left the Nicholas firm.

RAYMOND J. WHITNEY, village manager of Mamaroneck, N. Y., Jan. 1 began his new duties as city manager of Yonkers, N. Y. Whitney, who graduated from the University of Michigan in 1911 with an engineering degree, was appointed city manager of Mamaroneck in 1931. For several years he worked on design and construction for the Dodge Bros. Motor Co. and for six years previous to going to Mamaroneck he served as city manager of Royal Oak, Mich.

RICHARD S. NEFF, JR., for seven years building inspector for the city of Pittsburgh, has replaced KENNETH A. POWELL as construction supervisor for the Pittsburgh Housing Authority. Neff was employed for a time as assistant engineer for the Hoffman-Henon Co. at Pittsburgh, once worked as engineer on construction for the Mellon-Stuart Co., and for two years was with the W. T. Grange Construction Co. as assistant engineer. Powell, who has been with the Pittsburgh Authority for the past year, has not announced any plans for the future.

EDWARD E. HOLLENBACK, district inspector for the Pennsylvania General State Authority, resigned last week in order to return to private engineering work. Hollenback joined the State Authority in 1933 and previous to that worked with the State of New Jersey Emergency Relief Administration. In his new work Hollenback will be associated with EDWARD CRUMP, JR., of Pittsburgh.

HAL W. HUNT has joined the staff of *Engineering News-Record* as assistant editor, after spending 14 years in field and office work on roads and heavy construction. Since 1938 he has been construction engineer and assistant superintendent for Corbetta Construction Co. on various major projects, including the Bronx-Whitestone Bridge. Hunt was formerly with TVA on construction plant design and field work for Wheeler, Guntersville and Hiwassee Dams. Previous to that he worked as construction engineer for Stevens Bros. and the Miller Hutchinson Co. of New Orleans, and for the Bateman Contracting Co. of Nashville, on major bridge and waterway construction projects. After his graduation from the University of Iowa in 1926, he worked with the Iowa State Highway Commission.

CAPT. JAMES H. STRATTON is engineer in charge of the new U. S. Engineers District Office at Caddoa, Colo. A total of 570 engineers are now working at the new office on the design and construction of Caddoa Dam.

RALPH W. O'NEILL has been chosen to succeed ALBERT R. HAENNY as city engineer of Youngstown, Ohio. Haenny is completing four years as city engineer and O'Neill has been working at Youngstown as WPA engineer on city improvements.

W. D. HARKINS of Miami, Okla., has resigned as resident engineer for Holway & Neufer, consulting engineers for the Grand River Dam Authority work. Harkins while with Holway & Neufer was stationed at Wyandotte, Okla., in charge of the relocation of the Frisco R. R.

EDWIN G. SCOTT has been appointed assistant city engineer and park superintendent for Ashland, Ohio. HOWARD MAXHEIMER, assistant engineer for the city, has been appointed chief engineer of the city's new sewage disposal system.

T. G. POINDEXTER has been appointed district engineer of the sixth district for the North Carolina State Highway and Public Works Commission. Poindexter, who is a graduate of Georgia Tech, will be located at Sanford. He succeeds J. B. KOONCE, deceased.

G. N. MCQUEEN, engineer of Osceola County, Iowa, for the past three years, has been appointed engineer of Cass County with headquarters at Atlantic.

G. C. MORRISON, who has been with the municipal water department of Painesville, Ohio for 13 years, has been appointed chief engineer of the department to succeed F. G. CAMPBELL, who is retiring.

P. M. SAUDER, civil engineer, has been appointed director of water resources for the province of Alberta, Canada, to succeed L. C. CHARLESWORTH, who has retired. Sauder has been project manager and district engineer for the Lethbridge Northern Irrigation District for the past 15 years.

A. F. HARTER, resident PWA engineer on the Safford, Ariz., project, has resigned to accept the position of city engineer for Globe, Ariz.

JASPER GERARDI Jan. 1 began new duties as acting head of the department of engineering drawing at the University of Detroit. Gerardi has been a member of the Detroit faculty since 1929. He received a degree of B. S. in civil engineering from the University of Detroit in 1929 and a masters degree from the University of Michigan in 1935.

FERN P. WALTER of Detroit has accepted a position in the road design division of the Michigan State Highway Department. He will be located at Lansing.

LOUIS H. MOEHR has been appointed deputy drain commissioner of Wayne County, Mich., by GEORGE A. DINGMAN, commissioner.

RUBEN N. BERGENDOFF, long associated with Ash, Howard, Needles & Tammen, consulting engineers, of Kansas City and New York City, has been made a partner of the firm. Bergendoff graduated from the University of Pennsylvania in 1921 with a bachelor of science degree in civil engineering. Before joining the firm of which he is now a partner, he worked one year with the North Carolina State Highway Commission, six years with Harrington, Howard & Ash, now dissolved, and for a time as designing engineer for the Montana State Highway Commission.

PERCY S. WILSON, for a number of years assistant secretary at the New York office of the American Water Works Association, has opened offices in Glen Ridge, N. J., to resume private practice. Before joining the association Wilson worked for several years as sanitary and hydraulic consulting engineer and previous to that had worked as an engineer with the Community Water Service Co., New York.

A. F. WILBER, Reclamation engineer with headquarters at Denver, has been transferred to the Parker Dam in California. Wilber has been with the design department at the Denver office for the past nine years.

L. L. ARNOLD and H. W. BIRKELAND, engineers with the Bureau of Reclamation at Denver, recently resigned and are now with the Panama Canal Commission working on construction in the Canal Zone.

MEETINGS

NATIONAL SAND AND GRAVEL ASSOCIATION, annual convention, Hotel Jefferson, St. Louis, Mo., Jan. 17–19. Concurrently, tenth annual convention of the National Ready-Mix Concrete Association.

CANADIAN CONSTRUCTION ASSOCIATION, Royal York Hotel, Toronto, Ont., Jan. 16-17.

AMERICAN SOCIETY OF CIVIL ENGINEERS, annual meeting, New York City, Jan. 17-19.

AMERICAN SOCIETY OF PLANNING OFFICIALS, Chicago, Ill., January 18-19.

NATIONAL CRUSHED STONE ASSOCIATION, Hotel Jefferson, St. Louis, Mo. Jan. 22-24.

AMERICAN INSTITUTE OF PLANNERS, New York City, Jan. 25-26.

NATIONAL PUBLIC HOUSING CONFERENCE, Washington, D. C., Jan. 26-28.

AMERICAN ROAD BUILDERS ASSOCIATION, Chicago, Jan. 29-Feb. 2.

NATIONAL PAVING BRICK ASSOCIATION, annual meeting, Congress Hotel, Chicago, Ill., Jan. 30-31.

ASSOCIATED GENERAL CONTRACTORS, National Convention, Peabody Hotel, Memphis, Tenn., Feb. 5-8.

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS, Columbus, Ohio, Feb. 8–10.

REGIONAL AND LOCAL

ENGINEERING CONGRESS, University of Colorado, Boulder, Colo., Jan. 18-19.

ALABAMA ROAD BUILDERS ASSOCIATION, annual meeting, Montgomery, Ala., Jan. 18.

ARIZONA GOOD ROADS ASSOCIATION, annual meeting, Globe, Ariz., January 22-23.

ANNUAL ENGINEERS INSTITUTE, North Carolina State College, Raleigh, N. C., Jan. 24-27.

ILLINOIS SOCIETY OF ENGINEERS, Rockford, Ill., Jan. 25-27.

NORTH CAROLINA SOCIETY OF ENGINEERS, annual meeting, Raleigh, Jan. 26.

AMERICAN SOCIETY OF CIVIL ENGINEERS, North Carolina Section, Raleigh, Jan. 27.

HARBOR CARRIERS OF PORT OF NEW YORK, third annual banquet, Hotel Waldorf-Astoria, Feb. 1.

WYOMING ENGINEERING SOCIETY, 1940 Convention, Laramie, Feb. 2-3.

AMERICAN WATER WORKS ASSOCIATION, New Jersey Section, winter meeting, Roger Smith Hotel, New Brunswick, N. J., Feb. 7.

ASSOCIATION OF HIGHWAY OFFICIALS of North Atlantic States, annual convention, Hotel Ambassador, Atlantic City, Feb. 14–16.

ARKANSAS ENGINEERS CLUB, annual meeting, Hotel Marion, Little Rock, Feb. 23-24.

ELECTIONS AND MEETINGS

THE MEMPHIS CHAPTER of the Associated General Contractors last month elected seven new members to the board of directors and instructed the new board to postpone until March the election of officers. Those elected were: Fred J. Sexton, E. W. G. Meers, Robert M. Lee, Walter Jones, Paul Gauger, Grover Estes and a member from the S. & W. Construction Co. yet to be named. Fred J. Sexton presided at the meeting.

THE SAN FRANCISCO section of the American Society of Civil Engineers at its annual meeting Dec. 19 elected officers for the coming year as follows: H. B. Hammill, consulting structural engineer, president, and Walter Dreyer, assistant chief division of civil engineering, Pacific Gas & Electric Co., vice president.

ARNOLD H. VANDERHOOF, who was recently elected president of the Tennessee Valley section of the American Society of Civil Engineers, and Norton J. Funkhouse of the Eastern Air Lines, were the speakers at a meeting of the Engineers Club of Western North Carolina held Dec. 18 in Asheville, N. C. Robert L. Maynard, Asheville, president of the club, presided.

CARL A. DISTELHORST, superintendent of street construction in Milwaukee, was elected president of the Wisconsin section of the American Society of Civil Engineers recently at an annual meeting in Milwaukee. Other new officers are: C. A. Wilson, first vice-president; Berry E. Brevik, second vice-president, and Lloyd D. Knapp, secretary and treasurer. D. W. Mead, Madison, Wis., former president of the national society, was a guest at the meeting.

R. D. JORDAN, division engineer of the Alabama State Highway Department, is the new president of the Alabama section of the American Society of Civil Engineers. He was installed with other new officers of the Alabama section on Jan. 1.

J. C. Allen & Son Photo

ENGINEERS PLAN PURDUE'S ANNUAL ROAD SCHOOL

A large group of engineers met recently at Purdue University to make plans for the university's annual road school, which is to be held Jan. 21–26. Among those present were (left to right): Asher Gray, president of the Indiana County Surveyors and Engineers Association; C. Dave Ward, president of the Highway Materials & Equipment Association; Clarence Roy, president of the Indiana County Commissioners Association; Elmer Harrison, president of the Indiana County Road Supervisors Association; and F. F. Havey, engineer of tests, Indiana State Highway Commission. Ben H. Petty, professor of civil engineering at Purdue, will serve as chairman.

BRIEF NEWS

THE EIGHTEEN COVERED wooden bridges yet remaining in Gallia County, Ohio, all of which ante-date the Civil War period, are being replaced with modern structures at the rate of two each year, according to County Engineer E. N. Leonard.

THE COAST AND GEODETIC SURVEY of the state of Louisiana, which is 60 per cent complete at a cost to date of $1,500,000 in federal WPA funds, has been discontinued due to the Louisiana highway commission failing to contribute its share of additional funds to the work. The survey has been under way for six years.

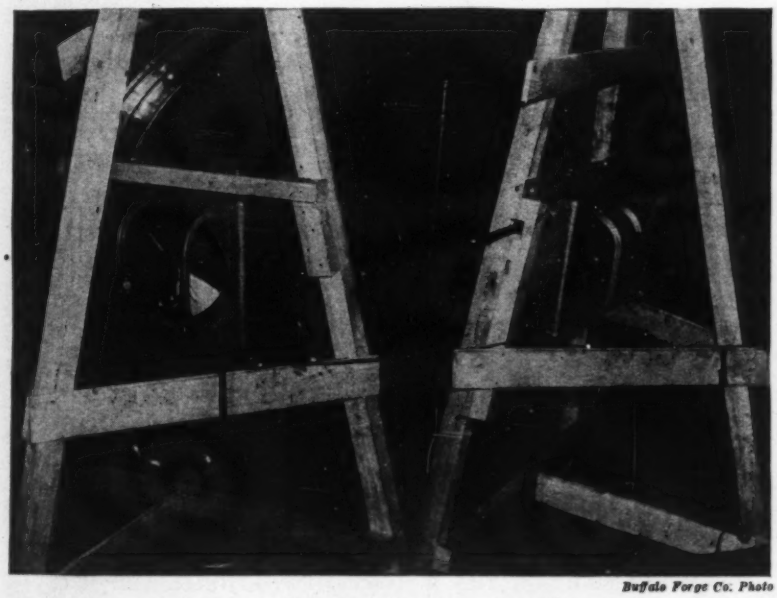
A NEW STATE licensing law for engineers, which was adopted by the last Idaho state legislature, went into effect last week.

U. S. HIGHWAY No. 1 was freed of toll bridges last week when the Florida state road department took over the St. Johns River Bridge spanning the St. Johns River at Jacksonville, Fla., the structure to be operated toll-free.

BIRMINGHAM'S independent industrial water supply system, which was placed in operation in June, 1938 at a cost of $7,250,000, on Jan. 1 had delivered 4,967,232 million gallons of water to industries in the district, according to city engineer J. D. Webb. The water system is unique in that it was built for and is used only by industrial establishments (*ENR*, Apr. 22, 1937, p. 591). Since it began operation revenue from the plant has totalled $182,000, and interest on the $4,000,000 of bonds is $160,000 a year. The plant is now serving 45 industrial consumers in and near Birmingham.

THE CITY of New York has contracted to buy 3.7 miles of track of the abandoned New York, Westchester & Boston R.R., at a price of $1,875,000. The tracks, which lie within the limits of the city, are to be used for additional rapid transit facilities in the Bronx.

THE U. S. ENGINEERS are making a survey for a proposed dam on the Des Moines River at Madrid, Iowa.



Buffalo Forge Co. Photo

BUFFALO DRIES OUT ITS WATER SUPPLY

THE BURSTING of a valve on a 60-in. discharge pipe in the Col. Francis G. Ward pumping station at Buffalo, N. Y., Jan. 3 cut off the regular water supply for four hours, deprived one section of the city of water for a longer period and resulted in the closing of the schools for two days and the shutdown of certain industrial plants. As shown above, fans circulating hot air are being used for drying out the motors of the pumps of the Ward station, the pumping floor having been covered with 10 ft. of water.

While repairs were being made the Massachusetts station, which is equipped with four steam pumps, each 30,000,000 gpd capacity, was placed in service.

Residents of the city were advised to boil all drinking water due to the lack of filtration, and as a further safeguard the water supply was chlorinated at the rate of 0.5 ppm.

Battery Tube Now Planned For New York

Moses, park commissioner, yields in fight for bridge crossing from Battery to Brooklyn

Robert Moses, park commissioner for New York City, has made known his intentions to cooperate with the New York City Tunnel Authority in its plans to build a tunnel between the Battery on lower Manhattan and the Borough of Brooklyn. The decision ends a one-year controversy in an attempt to get the War Department to approve construction of a $44,000,000 suspension bridge. In speaking of the bridge Moses stated, "Its construction cost is half that of the tunnel, maintenance charges about one-third, and its capacity twice as great. Federal authorities, however, have refused to permit construction of a bridge. Under the circumstances, we prefer a tunnel to no crossing at all."

The cost of the tunnel is estimated at from $70,000,000 to $90,000,000, and would provide for four lanes of traffic, two in each direction. While it had been contemplated that the bridge would be financed by the Reconstruction Finance Corporation, it is hoped that the tunnel may also be able to obtain a federal grant of 45 per cent of the cost.

To consolidate other agencies

Moses is attempting to consolidate the Triborough Bridge and the City Parkway authorities in a single agency to have charge of all toll highways and toll bridges within the City of New York. The Triborough Authority now operates the Triborough and Bronx-Whitestone Bridges and the park authority the Henry Hudson Parkway and bridge, the Marine Parkway and bridge, the Broad Channel Bridge, and the Cross Bay Boulevard. Moses, who by himself forms the City Parkway Authority, is chairman of the Triborough Authority.

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Bids Asked for First Unit of $26,000,000 War Building

The Public Building Administration this week made known that bids for the first unit of a $26,000,000 War Department building would be opened Feb. 9.

The structure is to be built in Washington, D. C., and $10,800,000 is now available for land acquisition and construction of the first unit. The first unit will be a seven-story structure and will provide 310,000 sq. ft. of floor space of the 1,200,000 sq. ft. ultimate.

OBITUARY

JOHN E. DONELSON, 68, superintendent of the concrete and slag department of Sloss-Sheffield Steel & Iron Co., Birmingham, Ala., died late last month at Birmingham. Donelson once served as assistant city engineer at Birmingham and was among the early engineers to place ready-mixed concrete on the market.

JOHN H. WINTER, 54, hydraulic engineer, employed at Moultrieville, S. C., by the South Carolina Public Service Authority on construction of the Santee-Cooper project, died Jan. 2 at Charleston, S. C. Winter was a graduate of the University of Georgia, having received an engineering degree from that school in 1907. In early life he was employed by the U. S. Engineers in Florida, by Stone & Webster on Keokuk Dam, and for a time as a designer with Ford, Bacon & Davis. He also worked in Brazil for a time.

BENJAMIN NATKIN, head of the Natkin Engineering Co., Kansas City, Mo., died Jan. 1 in Miami Beach, Fla., at the age of 57. Natkin 32 years ago organized the engineering firm which bears his name.

PAUL B. SUTTON, 52, city manager of Watertown, N. Y., and from 1920 to 1930 city engineer, died in that city Jan. 3. Sutton had been a city employee for 30 years, starting when a student at Cornell University, the school from which he graduated in 1912.

THOMAS O'HARA, engineer in the bridge and building department of the Canadian Pacific Ry. for 50 years, died a short time ago in London, Ont. O'Hara served as a bridge and building master for the railway from 1888 to 1929, when he retired.

MAX H. WICKHORST, since 1910 engineer of tests for the American Railway Engineering Association in the investigation of rails and rail steels, died at Oak Park, Ill., Jan. 2. Previous to 1910, Wickhorst had been employed by the Chicago, Burlington & Quincy R. R.

L. R. ANSPACH, 52, formerly assistant chief engineer of the bureau of location and design of the Ohio Department of Highways, died Jan. 4 in Columbus, Ohio. Anspach served with the highway department for nine years.

JAMES M. BARKER, office engineer for the Arizona State Highway Department, died in Phoenix, Jan. 1. Barker had been with the highway department for five years; prior to that time he worked as engineer for the Allison Steel Co.

EDWARD P. CASEY, 75, architect of New York City, who in 1900 with Prof. William H. Burr of Columbia University won first prize in the competition for the plans for the Memorial Bridge across the Potomac at Washington, D. C., died last week in New York City. Casey received a civil engineering degree from Columbia in 1886 and a bachelor of philosophy degree in 1888, this being followed by three years of study in Paris.

ROBERT W. ATKINSON, 62, engineering graduate of Harvard who retired in 1937 as manager of the Hawaiian Dredging Co., Ltd., died in Honolulu, T. H., Dec. 24.

Other recent deaths include: ADOLPH WELLS, 52, member of the firm of Wells-Robertson Co., general contractors of Louisville, Ky., Louisville; WILLIAM L. CONBOY, 62, construction engineer 33 years for Armour & Co., Omaha, Neb.; NELSON M. MCMURPHY, 74, vice-president and director of the Illinois Steel Bridge Co., Jacksonville, Ill.; ANDREW H. WEGENER, 47, associated with the Wegener Bricklaying & Contracting Co. of St. Louis, in that city; CLAYTON P. GOULD, 79, civil engineer employed at Pine Bluff, Ark., since 1926, Pine Bluff; CHARLES E. SITLER, 67, building contractor of Berwick, Pa., Berwick; JOHN THORP, elevator contractor for many years at Jamestown, N. D.; THOMAS C. WALSH, 65, bridge and tunnel contractor in Seattle; WILLIAM H. PRICE, 40, highway builder, Phoenix, Ariz.; GEORGE S. MILLS, 73, builder, Toledo, Ohio, and G. SANFORD DAVIS, 65, former consulting engineer in Montreal, Que., and at the time of his death connected with the Canadian National Defense Department, Ottawa.

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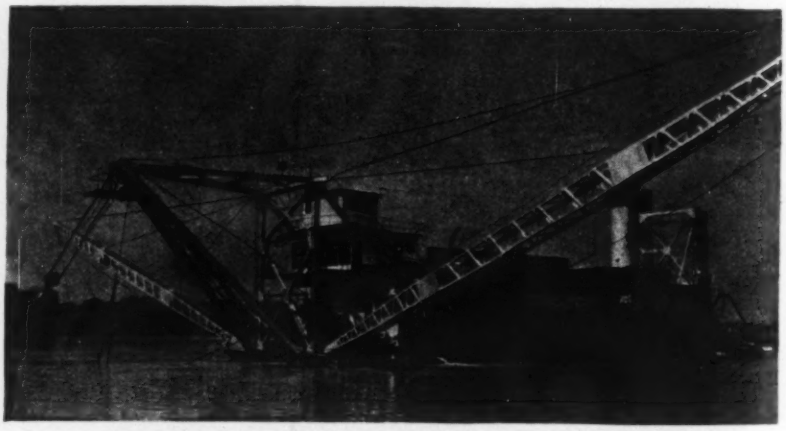
Indiana Utilities to Pay Gross Income Tax

Indiana municipalities were notified Jan. 1 by the state income tax director that the gross income tax would apply in 1940 to light, water, gas and sewage utilities. If the utility is a separate corporation it will be taxed on the receipts for services to other departments of the city. However, if the utility is a department of the city no taxes are to be assessed for services provided to other departments.

It is further held that sewage disposal plants are taxable on all receipts except funds received from a levy by the common council or interest on intangibles.



PUMPING FILL FOR THE WASHINGTON NATIONAL AIRPORT

THE 28-in. diesel-electric dredge Gulfstream owned by McWilliams Dredging Co., Chicago and New Orleans, is the largest of four dredging units pumping sand and gravel fill into the runways of the new Washington (D. C.) National Airport. The landing field, to be one of the finest in the country, is being built on the Virginia side of the Potomac River, almost entirely on filled ground. The river silt was removed down to firm material for the site of the four runways, which aggregate 21,195 ft. in length; the resulting trenches are being backfilled with sand and gravel dredged from the river.

The project is under the direction of the Civil Aeronautics Authority; the U. S. Engineers are placing the fill with their own and hired plant; the Public Buildings Administration is building the hangars and service buildings; the Public Roads Administration is relocating the Mount Vernon Highway around the field and WPA is furnishing most of the labor. The project is expected to be completed this year at a cost of $10,000,000.

Indiana WPA Men Convicted for Misuse of Labor

Orin Martin and Alfred Henning, former WPA officials in Indiana, have been convicted in the federal court at Hammond for accepting $175 for removing with WPA labor the foundation of a building which was being torn down. The men have been placed on probation.

The conviction follows the extended WPA investigation in Indiana. Val Nolan, United States district attorney, has made known that the federal grand jury will be called into session at Indianapolis, Jan. 15, to make a widespread investigation of all cases of alleged WPA fraud in the 62 counties of the southern judicial district.

A short time ago, Carl F. Kortepeter, former WPA co-ordinator for Marion County, was given a sentence of 18 months, and Gurney C. Derbyshire, father-in-law of Kortepeter, was sentenced to 12 months and a day, and both were fined $1,000. This sentence came as part of the investigation of WPA road work in Marion County. Both men have appealed their cases to the United States Circuit Court of Appeals at Chicago.

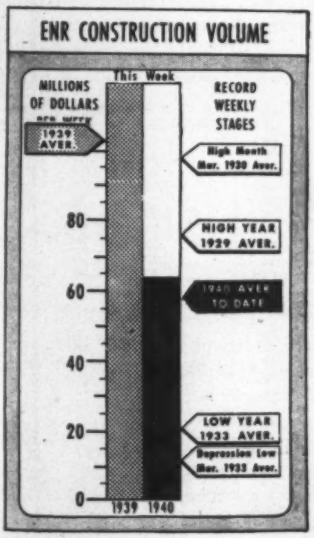
CONTRACTS AND CAPITAL

ENGINEERING construction awards for the week total $64,378,000, a decline of 46 per cent from the corresponding 1939 week when awards reached the highest volume reported during the entire year. The rush to get PWA projects under contract was responsible for the high 1939 figure.

Engineering construction awards for the initial 2 weeks of 1940 total $117,838,000, a 43 per cent decrease from the 2-week period last year. Private awards for the period, however, are 77 per cent higher than a year ago.

Private awards for the week top the 1939 week by 56 per cent, but public construction is 56 per cent under the week last year.

In the classified construction groups, commercial building and large-scale private housing, and unclassified construction exceed their respective volumes of a year ago. Waterworks, sewerage, bridges, public buildings, earthwork and drainage, streets and roads, and unclassified construction report gains over the short preceding week.



New capital for construction purposes for the week, $12,129,000, is 15 per cent above the volume for the corresponding 1939 week. The week's financing is made up of $3,884,000 in state and municipal bonds, and $8,245,000 in corporate security issues.

New construction financing for 1940 to date, $62,410,000, is 77 per cent higher than in the initial 2-week period a year ago.

CONTRACTS

(Thousands of dollars)

	Week Ending Jan. 12 1939	Jan. 4 1940	Jan. 11 1940
Federal	$16,502	$4,777	$8,402
State & Municipal	93,243	26,986	40,385
Total public	$109,745	$31,763	$48,787
Total private	9,981	21,697	15,591
TOTALS	$119,726	$53,460	$64,378
Cumulative 1940 (2 weeks)			$117,838
1939 (2 weeks)			$206,721

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial building, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1939 2 Wks.	1940 2 Wks.
NON-FEDERAL	$35,150	$62,410
Corp. securities	5,645	8,245
State & Mun.	21,467	8,966
R.E.A. loans	8,038	....
U.S.H.A. loans	....	45,199
FEDERAL	$....	$....
TOTAL CAPITAL	$35,150	$62,410

FHA MORTGAGES

	Week Ending Jan 7 1939	Dec. 30 1939	Jan. 6 1940
Selected for appraisal	$13,389	$9,697	$14,153*
Cumulative 1940 (1 week)			$14,153*
1939 (1 week)			$13,389

* Subject to revision.

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Jan., '40	238.34	114.57
Building Cost	Jan., '40	201.52	108.94
Volume	Dec., '39	172	75

Pan American Highway Makes Good Progress

To be two-thirds of the way across Honduras by end of next year under present program

If Guatemala, Salvador and Honduras are able to carry through their construction programs the Pan American highway will be two-thirds of the way across Honduras by the end of next year, Edwin W. James, chief of the division of highway transport, Public Roads Administration, stated in the course of a talk before the Washington Society of Engineers last week. He said two-thirds of the 3,250 miles of road between Nuevo Laredo and the Panama Canal has been completed.

In justifying the location of the road on the Pacific side of the Central American countries through which it passes, away from the more populous eastern coast areas, James said only one-third the bridges are needed on the route chosen. Other construction difficulties also are less, he stated.

Progress will be much more rapid in South America, James said, as existing highways constitute fifty per cent of the route to be followed from Caracas to Buenos Aires.

During the first year of the new law which permits government agencies to lend technical personnel to other governments, twenty-seven Americans have been retained by Latin American governments, he said. Not all of these men are engaged in road work. In addition to the highway engineers specialists in animal husbandry, in chemistry, and soil analysis have been retained by several of the countries.

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New Michigan Wage Rates Expected to Bring Road Bids

Due to a new schedule of wage rates for common labor, delays in the letting bids for Michigan road work projects previously advertised for bids under old specifications and then withdrawn are expected to be eliminated.

The new rate will be 50 cents an hour for common labor in 66 counties which do not embrace large population centers, 60 to 65 cents an hour in the immediate vicinity of 17 cities where a corresponding wage rate prevails, and 77.5 in the counties of Wayne, Oakland and Macomb. Harry D. van Wagoner, state highway commission, commenting on the new rate stated, "No contractors will be required to go 'union.' On the other hand, these rates are not intended to conflict with the interests of union workers."

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

PIERS AND ABUTMENTS PIT RIVER BRIDGE

OWNER: Bureau of Reclamation, Sacramento, Calif.

PROJECT: Construction of abutments and piers for Pit River Bridge in connection with relocation of Southern Pacific Railroad and U. S. Highway 99, Kennett Division, Central Valley Project, Calif. Bridge to be double-decked to accommodate highway at upper level and railroad facilities at lower level. Located between Redding and Delta, Calif. Four abutments and ten piers are required. Piers to be of hollow concrete construction, the largest being 172.65 ft. high. Concrete in piers 2, 3, and 4 to be artificially cooled by pumping water through pipes embedded in concrete.

CONDITIONS: The Government is to furnish cement, sand, gravel, reinforcing steel and all other materials which are to become part of completed structure. Highway transportation available. Project to be completed in 16½ months. Wage rates are: skilled, $1.10 to $1.50 per hr.; semi-skilled, 75c. to $1.10; and common labor, 75 to 80c. per hr.

BIDS: Ten bids were received October 5, 1939, ranging from the contract low of $1,138,288 to $1,768,505.

LOW BIDDERS:

1. Union Paving Co., San Francisco, Calif. (contract) $1,138,288
2. Heafey-Moore, and Fredrickson & Watson Constr. Co. (joint bid) Oakland, Calif..... 1,162,083
3. MacDonald & Kahn Co., Ltd., San Francisco, Calif. 1,306,103

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clearing	24 ac.	$100.00	$322.00	$125.00
2. Common excav., abut. and piers	240,000 c. y.	1.30	.46	.65
3. Rock excav., abut. and piers	36,000 c. y.	1.35	1.50	3.00
4. Backfill	243,000 c. y.	.25	.22	.25
5. Compacting backfill	136,000 c. y.	.25	.25	.50
6. Dry-rock paving	200 s. y.	4.30	4.50	3.00
7. Concrete abutments	7,810 c. y.	7.00	6.60	7.50
8. Conc., piers 1 to 7, below top of bases	23,300 c. y.	3.80	6.60	7.50
9. Conc., piers 1 to 7, above top of bases	60,320 c. y.	4.30	6.60	6.82
10. Conc., piers 8, 9 and 10	3,200 c. y.	6.00	6.60	7.50
11. Place reinforcing bars	10,930,000 lb.	.02	.02	.0175
12. Weld reinforcing bars	8,280 ea.	2.20	4.50	3.60
13. Cooling concrete	19,000 c. y.	.34	.64	.40
14. Inst. metal tubing and fittings	27,000 lb.	.20	.05	.25
15. Spec. finish conc. surface	900 s. y.	2.00	2.00	.65
16. Waterproof conc. surface	900 s.y.	1.50	1.00	.35
17. Inst. metal work, expansion joints	8,300 lb.	.30	.04	.10
18. Corr. metal pipe wells	306 l. f.	1.00	2.50	1.00
19. Inst. elec. metal conduits	220 l. f.	1.00	1.00	.35
20. Install electric cables	4,500 l. f.	.10	.50	.20
21. Construct sewer pipe drains	200 l. f.	3.00	2.00	1.00
22. Install misc. metalwork	20,000 lb.	.10	.05	.12

DIKES AND DIVERSION CANAL SOUTH CAROLINA

OWNER: South Carolina Public Service Authority, Charleston, S. C.; Harza Engineering Co., Chicago and Charleston, engineers.

PROJECT: Pinopolis dikes and diversion canal in connection with Santee-Cooper power and navigation project. Seven sections of dike, 3 on the east side, 2 on the north, and 2 on the west are to make up portions of the rim of Pinopolis Reservoir. Dikes range up to 38 ft. high and aggregate 28½ miles in length. Principal dike construction quantities are 2,700,000 c.y. of rolled fill embankment, 2,100,00 c.y. of dumped fill, and 980,000 c.y. of stripping. The diversion canal which joins the Pinopolis and Santee Reservoirs is to be approximately 7½ miles long, with bottom width of 200 ft.

CONDITIONS: Atlantic Coast Line Railroad and paved highway are within 1 mile of easterly margin of Pinopolis Reservoir. Contractor to furnish all materials and complete project in 450 calendar days. Minimum wages specified are: skilled labor, 90c. to $1.50 per hr.; semi-skilled, 50 to 90c.; and common labor 40c. per hr. Contracts for placing riprap to be awarded before dikes are finished. Contractor, therefore, must grade and trim upstream faces as soon as reasonably possible. Temporary plug to provide against river flood to be left in diversion canal near Sta. 200 until removal is directed. Unit prices on one section of the East, North and West Dikes, and the Diversion Canal are given below.

SCHEDULE 1—EAST DIKE—SECTION I

BIDS: Nine bids received Sept. 28, 1939, ranging from contract low of $484,099 to $764,370. Engineer's estimate, $593,875.

LOW BIDDERS:

1. C. G. Fuller & J. B. Britton, Barnwell and Sumter, S. C. (contract) $484,099
2. W. C. Shepherd, Atlanta, Ga. 499,195
3. Gregory & Poole, Robt. Lee, Inc., Raleigh, N. C., Myrtle Beach, S. C. 523,319

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clearing, Class B	290 ac.	$30.00	$75.00	$35.00
2. Auger holes	600 l. f.	2.00	1.00	1.50
3. Auger hole samples	120 ea.	1.50	3.00	3.00
4. Stripping	280,000 c. y.	.16	.125	.23
5. Borrow, for rolled fill	2,060,000 c. y.	.14	.168	.17
6. Roll, finish earth fill	1,800,000 c. y.	.02	.0175	.015
7. Adj. each add'l., lesser roll.	1,800,000 c. y.	.0015	.0015	.0015
8. Dumped fill	160,000 c. y.	.12	.14	.13
9. Seeding	36 ac.	100.00	130.00	125.00
10. Drainage ditches	17,000 c. y.	.10	.20	.25
11. Highway culvert	L.S.	1,000.00	3,000.00	1,200.00
12. Railroad culvert	L.S.	600.00	4,000.00	1,500.00
13. 1½-in. pipe, in place	320 l.f.	1.50	.50	1.00
14. 1½-in. well points, in place	13 ea.	3.00	5.00	3.00
15. Earth blanket	60,000 c. y.	.30	.20	.20
16. Overhaul	11,500,000 sta. y.	.005	.001	.002

SCHEDULE 4—NORTH DIKE—SECTION I

BIDS: Twelve bids were received September 28, 1939, ranging from the contract low of $33,774 to $71,773.

LOW BIDDERS:

1. J. A. Terteling & Sons, Boise, Idaho (contract) $33,774
2. C. G. Fuller & J. B. Britton, Barnwell and Sumter, S. C. 43,701
3. Mark C. Walker & Son Co., Omaha, Nebr. 43,756

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clearing, Class B	180 ac.	$45.00	$40.00	$50.00
2. Auger holes	140 l. f.	1.00	2.00	2.50
3. Auger hole samples	25 ea.	.60	1.50	3.75
4. Stripping	75,000 c. y.	.13	.15	.192
5. Dumped fill	180,000 c. y.	.07	.12	.0945
6. Seeding	8 ac.	135.00	100.00	100.00
7. Drainage ditches	20,000 c. y.	.10	.12	.0945
8. 1½-in. pipe, in place	75 l. f.	1.00	1.50	2.50
9. 1½-in. well points, in place	7 ea.	2.00	3.00	3.50

SCHEDULE 6—WEST DIKE—SECTION I

BIDS: Fifteen bids were received September 28, 1939, ranging from the contract low of $132,495 to $280,599. Engineer's estimate, $235,275.

LOW BIDDERS:

1. J. A. Terteling & Sons, Boise, Idaho (contract) $132,495
2. Sternberg Dredging Co., St. Louis, Mo. 169,265
3. Mark C. Walker & Son Co., Omaha, Nebr... 171,785

(*Contract Unit Prices Continued on page* 15)

(*Contract Unit Prices Continued from page* 14.)

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clearing, Class B	345 ac.	$55.00	$125.00	$50.00
2. Auger holes	300 l. f.	1.00	2.50	2.50
3. Auger hole samples	60 ea.	.60	2.00	3.75
4. Stripping	230,000 c. y.	.13	.10	.192
5. Dumped fill	1,100,000 c. y.	.07	.085	.0945
6. Seeding	30 ac.	135.00	175.00	100.00
7. Drainage ditches	20,000 c. y.	.10	.15	.0945
8. 1½-in. pipe in place	200 l. f.	1.00	1.75	2.50
9. 1½-in. well points, in place	17 ea.	2.00	10.00	3.50

SCHEDULE 8—DIVERSION CANAL

BIDS: Nine bids were received September 28, 1939, ranging from the contract low of $508,920 to $1,221,095. Engineer's estimate, $901,950.

LOW BIDDERS:

1. J. A. Terteling & Sons, Boise, Idaho (contract) $508,920
2. Atlantic Dredging & Constr. Co., Okeechobee, Fla. 796,950
3. Morrison-Knudsen Co., Inc., Boise, Idaho..... 822,190

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clearing, Class A	460 ac.	$75.00	$120.00	$300.00
2. Clearing, Class B	285 ac.	165.00	60.00	50.00
3. Drill holes, earth	2,000 l. f.	1.50	3.00	2.00
4. Drill holes, rock	2,000 l. f.	3.00	6.50	3.00
5. Test pits, earth	100 ver. f.	5.00	10.00	7.00
6. Test pits, rock	100 ver. f.	20.00	20.00	30.00
7. Test pit samples	20 ea.	1.00	5.00	2.00
8. Common excavation	6,550,000 c. y.	.0525	.081	.092
9. Rock excavation	400,000 c. y.	.15	.38	.092
10. Stock piling of riprap rock	40,000 c. y.	.30	.50	.42

HIGHWAYS, KANSAS

OWNER: Kansas State Highway Department, Topeka, Kansas. Shockley Engineering Co., Kansas City, Mo., engineers.

PROJECT: Grading and concrete paving 3.219 mi. of State Line Road from 77th to 103rd Sts., Johnson County, Kansas. Involves construction of 20-ft. concrete strip with 8-ft. shoulders, and a 40-ft. spandrel filled concrete arch bridge.

CONDITIONS: Contractor to furnish all materials and complete project in 60 days. Highway transportation available. Wages are: skilled, $1.50 per hr.; semi-skilled, 80c. to $1.10 per hr.; and common labor, 57½c. per hr.

BIDS: Three bids were received on December 5, 1939, for grading and culvert work ranging from the contract low of $45,003 to $97,535; five bids received on same day for paving, ranging from $78,367 to $99,790; and five bids opened for the bridge construction ranging from $18,387 to $23,777.

GRADING AND CULVERTS

LOW BIDDERS:

1. Sherrer & Bennett, Kansas City, Kan. (contract) $45,003
2. Perry McGlone, Kansas City, Mo..... 70,494
3. C. E. Grey, Emporia, Kan..... 97,535

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Trees felled and grubbed	180 ea.	$4.00	$10.00	$10.00
2. Hedge grubbing	7,438 l. f.	.12	.30	.20
3. Common excavation	65,200 c. y.	.245	.40	.42
4. Rock excavation	20,500 c. y.	.65	.80	1.50
5. Earth compaction	47,920 c. y.	.04	.05	.05
6. Uncl. culvert excav	814 c. y.	1.80	2.00	3.00
7. Water pumped	3,710 M gal.	.50	.50	.10
8. Water hauled	3,710 M gal.	.10	3.00	.50
9. Water system	L. S.	1,000.00	.....	2,500.00
10 Class "A" concrete	327 c. y.	20.00	28.00	60.00
11. Reinforcement steel	30,490 lb.	.045	.05	.06
12. 15 in. entrance pipe	807 l. f.	1.35	1.50	4.00
13. 24 in. cross road pipe	84 l. f.	2.60	2.70	4.00
14. 24 in. side road pipe	164 l. f.	2.60	3.00	7.00
15. 36 in. cross road pipe	44 l. f.	4.80	5.50	.....
16. Stone wash cks.	834 l. f.	.50	.80	2.00
17. Roll and tamp	14,366 c. y.	.03	.04	.04

PAVING

LOW BIDDERS:

1. Koss Constr. Co., Des Moines, Ia. (contract) $78,367
2. Harrison Engr. & Constr. Corp., Kansas City, Mo. 78,377
3. J. A. Tobin Constr. Co., Kansas City, Kan.... 81,773

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Common excavation	4,600 c. y.	$0.35	$0.20	$0.24
2. Treated subgrade	20,000 s. y.	.....	.....	.....
3. Concrete paving	39,218.7 s. y.	1.83	1.88	1.89
4. Pipe underdrain	3,313 l. f.	.50	.45	1.21
5. Crushed stone surface	860 s. y.	1.20	1.00	1.00
6. Bituminous surface	940 s. y.	2.20	1.25	1.55
7. Steel plate guard fence	200 l. f.	1.15	1.00	1.10

BRIDGE

LOW BIDDERS:

1. J. A. Tobin Constr. Co., Kansas City, Kan...$18,387
2. Reese Constr. Co., Scandia, Kan..... 18,493
3. Schlichter Bridge Co., Clay Center, Kan.... 20,038

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Class I excavation	456 c. y.	$1.25	$2.00	$1.50
2. Class II excavation	376 c. y.	3.00	5.00	3.60
3. Class "A" concrete	503 c. y.	23.15	21.75	25.00
4. Class "D" concrete	2.2 c. y.	50.00	35.00	50.00
5. Reinforcement steel	75,550 lb.	.05	.045	.05
6. Remove old structure	L. S.	250.00	300.00	500.00
7. Waterproofing	10,380 s. f.	.05	.06	.10

BRIDGE APPROACH CLEVELAND, OHIO

OWNER: Cuyahoga County Board of Commissioners, Cleveland, Ohio. J. O. McWilliams, Standard Building, engineer.

PROJECT: Constructing lakefront ramp of East Approach of Main Avenue Bridge, between West Third Street and Lakefront Road, Cleveland, Ohio.

CONDITIONS: Contractor to furnish all materials and complete project by June 25, 1940. Highway transportation facilities available. Wage rate on job are: skilled, $1.37 to $1.67½ per hr.; semi-skilled, $1.10 per hr.; and common, 90c. per hr.

BIDS: Seven bids were opened October 28, 1939, ranging from the contract low of $854,866 to $898,857. Engineer's estimate $956,951.

LOW BIDDERS:

1. National Engr. & Contr'g. Co., Cleveland, Ohio (contract) $854,866
2. Lombardo Bros. Constr. Co., Cleveland, Ohio 857,930
3. Hunkin-Conkey Constr. Co., Cleveland, Ohio.. 858,992

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Excavation, structures	6,900 c. y.	$5.00	$7.00	$7.25
2. Borrow	10,000 c. y.	.60	.50	.75
3. Soil tests	10 ea.	150.00	100.00	150.00
4. Class A concrete	2,550 c. y.	13.00	14.00	13.00
5. Class B concrete	1,600 c. y.	45.00	25.00	25.00
6. Class C concrete	240 c. y.	10.00	12.00	12.00
7. Reinforcing steel	370,000 lb.	.04	.04	.05
8. Guniting	2,450 s. f.	.80	1.00	1.00
9. Structural steel	2,840 ton	189.00	176.50	178.40
10. Stairway	L. S.	2,000.00	1,500.00	2,000.00
11. Bridge rail	3,100 l. f.	6.50	10.00	9.00
12. Bridge decking	57,900 s. f.	1.23	1.30	1.15
13. Sidewalk decking	6,300 s. f.	1.45	1.50	1.45
14. Bridge light sys. (conduit)	6,900 l. f.	.80	.80	.80
15. Porous backfill	250 c. y.	3.00	3.00	3.00
16. Waterproofing, type A	2,500 s. y.	.55	.40	.60
17. Waterproofing, type B	160 s. y.	1.40	1.50	1.60
18. Rein. port. cem., conc. paving	2,500 s. y.	3.00	3.00	3.50
19. Bitum. macadam base crse	600 s. y.	2.60	2.00	2.40
20. Hot mix, hot laid asph. conc. surf. crse.	600 s. y.	1.25	1.20	1.20
21. Concrete sidewalk	4,500 s. f.	.30	.30	.30
22. Stone curb and headers	2,200 l. f.	2.00	2.00	2.00
23. Stone coping	1,800 s. f.	.50	.75	.75
24. Stone masonry	5,800 c. f.	4.50	5.00	5.40
25. Manholes	24 ea.	200.00	200.00	175.00
26. Catch basins	11 ea.	125.00	125.00	100.00
27. 10-in. copper brg. steel pipe downspouts	270 l. f.	7.00	8.00	8.00
28. 12-in. cast iron pipe	130 l. f.	8.00	8.00	6.00
29. 12-in. rein. conc. pipe	250 l. f.	2.00	3.50	3.50
30. 12-in. vitr. sew. pipe	1,000 l. f.	2.60	3.00	2.50
31. 15-in. vit. sew. pipe	800 l. i.	5.00	9.00	8.00
32. 18-in. vitr. sew. pipe	80 l. f.	7.00	13.00	11.00
33. 24-in. vitr. sew. pipe	50 l. f.	12.00	14.00	12.00
34. 24-in. vitr. sew. pipe storm sew.	1,200 l. f.	.50	1.00	.80
35. Remove foot bridge	L. S.	8,500.00	8,500.00	8,500.00
36. Replace water main	L. S.	3,400.00	3,400.00	3,400.00
37. Maintain traffic, light signals, etc.	L. S.	1,000.00	1,000.00	1,000.00

CONSTRUCTION REPORTS

Compiled by BUSINESS NEWS DEPARTMENT
Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, MANAGER
(Daily service also available—Write for details)

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

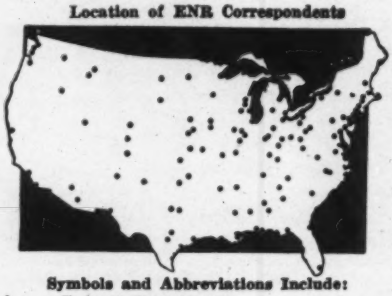
Classes of Construction
(Named in order of Listing)

Water Supply	Unclassified
Sewers, Waste Disposal	Materials, Equipment
Bridges, Grade Cross'gs	Public Buildings
Streets & Roads	Commercial Buildings
Earthwork, Waterways	Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads);
BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);
LOW BIDDERS ($500,000 projects and over);
CONTRACTS AWARDED

Location of ENR Correspondents



Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD McGraw-Hill Construction Daily

WATER SUPPLY

PROPOSED WORK

Calif., McArthur—A. F. Burne, dist. secy. Fall River Joint Union High School Dist., rejected bids 12/22, constructing 30,000 gal. steel water tank, on 87 ft. tower. CD 11/14—ENR 11/16.

Colo., Wheatridge—$74,000 bond election planned for pipe line for WW sys.

Fla., Miami—Appropriated $46,000 to purchase, install 2 pumps for drawing water from Miami Canal to insure sufficient water for Miami Beach section. $46,000.

Ind., Chalmers—Town Bd., R. Harner, clk., bids soon, WW and distr. sys., eight 100 ft. deep wells, tubular type, steel or w.i. casing, 200 gpm deep well turbine pump, 60,000 gal. steel pump, fire hydrants, gate valves, c.i. water mains, chlorinator, water meters, yokes and boxes, soft copper tubing, corporation stops, tapping machine, pump house, etc. $30,000. Martin L. Burden, 103½ N. Harrison St., Alexandria, consult. engr.

Ia., Waterloo—Black Hawk Co., imprv. water supply and sewage disposal facilities. About $30,000.

Kan., Mahaska—Approved $17,500 bonds for WW. $55,000. Paulette & Wilson, 1006 Kansas Ave., Topeka, engrs. CD 12/12—ENR 12/14.

Kan., Wichita—Installing electrical distr. sys., remove control sys., motors in connection with WW project. $40,000. Black & Veatch, 4706 Bway., Kansas City, Mo., engrs.

Mass., Boston—At office Metropolitan Dist. Water Supply Comn., R. N. Molt, secy., 20 Somerset St., Contr. 94, sinking Charles River Shaft, appurtenant work, Weston. K. R. Kennison, ch. engr. of comn. PWA; adv. ENR 1/11. CD 12/13—ENR 12/21.

Mass., Westboro—C. Kimball, chn. Water Comn., Town Hall, preliminary surveys, wells, pump. sta., standpipe, pipe lines. $40,000. To be considered at Town meeting in March. Metcalf & Eddy, 1300 Statler Bldg., Boston, engrs.

Mo., Waverly—Installing WW and sewerage sys. $100,000. Harrington & Cortelyou, Dwight Bldg., Kansas City, Mo., engrs.

N. J., Trenton—Imprv. water sys. at pump. station, Calhoun and W. State Sts. $25,548. WPA. W. D. Cougle, 1102 S. Broad St., Trenton, WPA and owner's engr.

N. Y., Utica—Water Bureau, City Hall, exten. and imprv. water distr. facilities. $223,000. J. B. Shaw, City Hall, engr.

O., Bremen—E. J. Young, village clk., rejected bids 11/10, water well and water softening plant. Over $15,000. C. T. Kaiser, 258 Hudson Ave., Newark, engr. P. A. Uhlman, 83 S. High St., Columbus, consult. engr. CD 11/8.

Okla., Lawton—Voted bonds, exten. watermains. $60,000. W. B. Hendricks, Lawton, engr. CD 12/13—ENR 12/21.

Okla., Stuart—City, c/o Mayor, dam for lake providing city's water supply, to replace dam washed out by flood. Clarence H. Edge, Holdenville, engr.

★**Tex., Beaumont**—H. A. Coale, mayor, for Rockland Dam, rein.-con., steel, to create water supply (primarily) for town. $9,000,000. Engineer, c/o owner.

B. C., Courtenay—WW imprvs. and intake on Browns River. $15,000. A. G. Graham, Nanaimo, engr.

B. C., Kamploops—Bids soon addn. and changes to WW sys. $87,000. J. F. MacLaren, 66 Woodlawn St. W., Toronto, Ont., engr.

BIDS ASKED

Bids Asked January 17

Kan., Wichita—C. C. Ellis, city clk., furnishing, installing water supply pump. equip. and appurtenances and clear water reservoir. Est. about $116,000. PWA. Black & Veatch, 4706 Bway., Kansas City Mo., consult. engrs.

Bids Asked January 19

Wis., Wauwatosa—Constr. 39, Div. 1, furnishing, del., installing 1500 g.p.m. deep well turbine pump; Div. 2, booster pumps and one 1,000 g.p.m. booster pump; Div. 3. underground power line, piping, electrical work, pump controls lighting metering equip. M. F. Linnan, city engr.

Bids Asked January 22

Mo., Jefferson City—State Building Comn., Water distr. sys. for state capitol buildings, pumps and tank house. $40,000. Keene & Simpson, Land Bank Bldg., Kansas City, Mo., engrs.

Bids Asked January 25

Mass., Boston—Commonwealth of Massachusetts, Metropolitan Dist. Water Supply Comn., R. N. Molt, secy., 20 Somerset St., furnishing, del. valves, sluice gates, flanges, pumps, hydraulic valve control apparatus, etc., Contr. 95, in Marlboro, Southboro, Framingham, Wayland, Natick, Newton, Weston, Malden, Melrose and Stoneham. K. R. Kennison, ch. engr.

Bids Asked

Calif., Coalinga—Drilling 16 in. water well, 200 ft. deep.

Mass., Barre—Town, Water Comn., Town Hall, (selected list bidders) 1 story, 15 x 17 ft. pumping sta., for water sys., Curtis Pit. H. E. Bailey, 177 State St., Boston, engr. CD 12/19—ENR 12/21, under CA.

Mass., Lynnfield—Whitman & Howard, engrs., 89 Broad St., Boston, preliminary well work, for Town, E. S. Webster, chn. Bd. Selectmen, Town Hall. $200,000 has been appropriated for WW supply sys., pump. sta., standpipe, pipe lines. CD 11/10—ENR 11/16.

CONTRACTS AWARDED

Calif., South Pasadena—Imprv. water sys. water storage tank, etc. **WPA. $90,000.** F. Clough, City Hall, engr.

Colo., Denver—Bd. Water Comrs., City County Bldg., to Lock Joint Pipe Co., 1716 California St., constructing Capital Hill gravity conduit, 3,270 ft. 42 in. pipe at **$15.50** per ft. and 7,007 ft. 46 in. pipe, **$16.50** per ft.; reconstructing Conduit 6 from south side Marston Filter plant, 7,350 ft. 42 in. pipe **$11.75** per ft., proviso in bids of a reduction of **50c** per ft. on whole job if given both contracts, making total **$243,850.** Bids 12/21, awarded 12/26. CD 12/7—ENR 12/14.

Ga., Augusta—State Dpt. P. Welfare. Atlanta, 2 deep wells, to Virginia Mchy & Well Co., 1319 E. Main St., Richmond, Va. **$7,250***water lines, to J. R. Connelly, Varnerville, S. C.***electric sys., to J. R. Cothran, Jr., 3472 Piedmont Rd. N.E., Atlanta. Bids 12/20. CD 12/13.

Ia., Woodward—State Bd. Control, Des Moines, water treatment plant, to Robert W. Scott, Albert Lea, Minn. **$37,732**; sewage plant, to Arthur F. Mathis, 933 18 St., Des Moines. **$44,025.** Est. $100,000. Bids 12/22. CD 12/12—ENR 12/14.

Kan., Council Grove—Core drilling for WW imprvs., dam, gravity flow line from dam to filter plant, to Kelly-Collins Water Supply Co., 1508 N.W. 18 St., Oklahoma City, Okla. **$1.25** per ft. and for cutting **$2.75** per ft. **$3.50** per ft. for rock. Total est. $210,000. CD 11/13—ENR 11/16.

Mich., Flint—J. R. Pollock, city mgr., watermain extens. in 4 sections city, 45,000 ft. 6- to 12-in. c.i. pipe, 54 hydrants. **WPA. $184,000.**

Mich., Gladwin—WW storage tank, to Pittsburgh-Des Moines Steel Co., 38 S. Dearborn St., Chicago, Ill.; pipe laying, to Korkoske & Co., Gladwin. CD 10/13—ENR 10/19.

Mo., Bernie—K. Perkins, mayor, WW and distr. sys., steel water storage tank, fire hydrants, deep well, pump, etc. **WPA. $70,000.** Russell & Axon, 4903 Delmar Blvd., St. Louis, engrs. CD 9/1—ENR 9/7.

Mont., Noxon—Water sys. imprvs. **WPA. $20,000.**

Neb., Fremont—N. Mapes, mayor, watermains. **WPA. $27,000.** L. M. Roessler, city engr.

Neb., Plainview—Imprv. water and sewer sys., **WPA. $19,860.**

N. J., Freehold—Excavating, watermains and sanitary sewer extens., various streets. **WPA. $27,220.** W. D. Cougle, 1102 S. Broad St., Trenton, WPA and owner's engr. CD 3/23—ENR 3/30.

N. J., Trenton—1 mi. 10 in. waterline in bed of old canal. **WPA. $63,352.** J. E. English, City Hall, engr.

N. Y., Bethlehem (P.O. Delmar)—Bethlehem Water Dist. 1, Delmar, WW sys. addns., driving wells, to Harris Harmon Well Co., Inc., Bway., Mineola***pipe and fittings, to Central Fdry. Co., 386 4 Ave., New York*** sheet steel piling, to Albany Steel & Iron Supply Co., Troy Rd., Albany. Total est. **$170,000.** Bids 12/19. CD 11/29—ENR 12/7.

N. Y., Bethlehem (P. O. Delmar)—Bethlehem Water Dist., Delmar, water supply sys., excavating, laying pipe, Sect. 4, to M. A. Bongiavanni, Hall Ave., Syracuse; steel storage tank, to Pittsburgh-Des Moines Steel Co., 270 Bway., New York. Total est. entire project **$170,000.** Bids 12/19. CD 11/29—ENR 12/7.

N. Y., Castile and Holland—Villages, laying watermains, installing blow off facilities. **WPA.** Over **$15,000.**

N. Y., Fair Haven—Water supply sys., pump house to J. Orbaker, Williamson; standpipe, to Pittsburgh-Des Moines Steel Co., Neville Island, Pittsburgh, Pa. **$13,000.** Total est. entire project $80,000. Bids 12/28. CD 12/21—ENR 12/14.

N. Y., Fair Haven—Water supply sys., constructing Transite pipe line, to Provo Bros. W. Hiawatha Blvd., Syracuse, **$55,000.** Bids 12/28. CD 12/21—ENR 12/14.

N. C., Morganton—C. F. Lewis, town mgr., 30 x 140 ft. concrete masonry intake dam at South Mountain Watershed, to W. F. Brinkley, Granite Quarry. **$23,020.** Est. $20,000. Bids 12/13. CD 12/8.

O., Cincinnati—H. F. Wagner, city purch. agt., 162 City Hall, piping, valves, etc. in connection with reconstruction work for installation new electric driven centrifugal pumps at WW pump. station, to L. E. Stevens Co., 622 Bway., Cincinnati. **$126,642.** Awarded 12/28.

Okla., Binger—New drilled well and watermain extens. to existing plant. **WPA. $16,400.** R. O. Bradley, Chickasha, engr.

Okla., Tulsa—Grading, landscaping imprv. at Mohawk Lake pump. station of Tulsa City Water Plant. **WPA. $100,555.** W. Wooten, City Hall, engr.

Pa., Allentown—1,040 ft. 8 in. c.i. watermains, N. Jasper St., 330 ft. E. Linden St., own forces under supervision E. Meckley, city engr. CD 12/27—ENR 1/4.

Pa., Mackeyville—Clinton Co., Lock Haven and Boro Comrs., Mackeyville, water supply sys., reservoir and 13,000 lin. ft. c.i. pipe line. **WPA** under supervision of owners. **$23,766.** CD 6/21—ENR 6/29.

Pa., Montoursville—Boro, installing 8 in. c.i. pipe line to site of International Furniture Co. plant, west of Strieby's Lane, to R. H. Odell, Montoursville; furnishing 8 in. pipe, to Donaldson Iron Co., Emaus. Over **$15,000.** CD 11/8—ENR 11/16, under CA.

Tex., Alice—C. D. Jones, mayor, WW sys. expansion, **WPA. $76,832.** P. S. Anderson, Alice, engr.